

Types of Ankle Surgeries and Ankle Replacement Surgery

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Abstract

Ankle fractures are the third most common osseous injury in the elderly, behind hip and distal radius fractures. While there is a rich history of clinical advancement in the timing, technique, perioperative management, and associated risks of hip fractures, similar evaluations are only more recently being undertaken for ankle fractures. Traditionally, elderly patients were treated more conservatively; however, nonoperative management has been found to be associated with increased mortality. As such, older and less healthy patients have become operative candidates. Ankle surgery may be an option when more-conservative treatments don't relieve ankle pain caused by severe arthritis. The type of surgery that's right for you depends on your age, your level of activity, and the severity of your joint damage or deformity. Severely damaged ankle joints may need to have the bones fused together or even replaced with an artificial joint. Ankle surgery is a treatment option recommended to people with severe pain or injuries in the ankle joint. Depending on certain factors like your age, overall health, and the severity of the pain, your doctor may determine the type of ankle surgery suitable for you.

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Introduction

The elderly population represents a rapidly growing segment of our nation's population. Advancements in technology and medicine have allowed health care professionals to provide better and effective care, thus increasing the life expectancy of the elderly [1].

Surgery is not the only solution for many ankle problems. Most of the ankle issues can be solved with therapy and medicines. However, when ankles are unstable, deformed, badly broken or is causing constant pain, surgery could be the only solution. Ankle surgery may be needed to treat broken bone (fracture), tendonitis, arthritis and problems that cannot be resolved with therapy and medicines [2]. Surgery for the fracture of an ankle is done when the ankle bones are unstable and require more support to heal. A few milder fractures when the ankle is stable and the broken bone is not out of place – may not require surgical repair. Arthritis that causes pain and immobility. The two most common ankle surgery procedures are ankle fusion and ankle replacement. The ankle fusion procedure is performed to allow the bones to fuse as one. During the procedure, the surgeon roughens the bones'

ends and joins them with screws and metals. This procedure has been effective in relieving arthritis pain. The ankle replacement procedure is performed to replace the damaged parts of the bones with an artificial plastic-and-metal replacement joint. The artificial joint allows a more natural movement of the ankle, thereby reducing the chances of developing arthritis in the future.

Usually, an ankle replacement procedure is recommended to healthy people with a lesser-active lifestyle above the age of 60 years. Some high-impact activities such as jumping and running may damage the artificial joint [3].

Types of Ankle Surgeries

Ankle surgeries can range from a minimally invasive ankle arthroscopy to ankle replacement surgery. To carry out these surgeries, the surgeon will give you either local Anesthesia or general Anesthesia [4].

There are following types of ankle surgeries:

Ankle arthroscopy

Ankle arthroscopy is a minimally invasive surgical procedure that

involves making tiny incisions in your ankle region. During the procedure, the surgeon will remove parts and areas of your bone and cartilage that may be causing problems in your ankle [5]. Usually, this procedure is recommended if you have ankle injuries or arthritis.

Tendon surgery

This procedure is carried out if you have chronic tendonitis or synovitis in the ankle. The type of tendon surgery that may be performed depends on the severity of the tendon damage. If you have a damaged tendon tissue, the surgeon may surgically remove it or repair the tear. If your problem is severe, the surgeon may have to perform an Achilles tendon repair or reconstruction and tendon transfer [6]. This complex procedure involves removing the damaged tendon and replacing it with another tendon.

Ankle fracture surgery

If you develop a broken or fractured ankle, the doctor may recommend ankle fracture surgery to stabilize the break and heal the bone. The surgeon will use tiny metal wires, metal plates, and screws to help hold the broken bone stable during the healing process [7]. There are different types of ankle fracture surgeries. Depending on your ankle fracture, the doctor may recommend the one best suited for you.

Ankle fusion surgery

Ankle fusion surgery involves fusing the broken bones of the ankle. During the procedure, the surgeon may remove the damaged areas of the ankle bones and then fuse them permanently. This is done with the help of metal plates and screws [8]. This surgical procedure usually treats ankle arthritis.

Ankle replacement surgery

Ankle replacement surgery involves removing the damaged ankle joint and replacing it with an artificial joint made up of metal or plastic. The replacement joint is attached to the ankle bones with the help of special surgical glue. In some cases, the surgeon may also use metal screws to help stabilize the artificial ankle joint.

This surgical procedure is performed in cases of foot deformities and severe ankle instability. During the procedure, the surgeon will make a tiny incision outside of your ankle to tighten any loose and weakened ligaments that may be causing instability in your ankle [9].

1. Ankle replacement
2. An ankle replacement
3. Ankle replacement Open pop-up dialog box

In this procedure, the surgeon removes the ends of the damaged bones and fits a plastic-and-metal replacement joint onto them. The artificial joint helps the ankle retain more-natural movement,

so there's less risk of arthritis developing in nearby joints. However, loosening of the components can occur [10].

Artificial ankle joints are generally recommended for healthy people over the age of 60 who have less-active lifestyles. High-impact activities such as running and jumping can damage an artificial ankle joint.

Ankle replacement might not be a good choice if you:

1. Are younger than 50
2. Have weakened ankle ligaments
3. Participate in high-impact sports or work
4. Have misaligned ankle bones
5. Are significantly overweight
6. Have nerve damage from diabetes
7. Are a heavy smoker

Conclusion

The steady rise in the elderly population will result in more geriatric patients seeking treatment from health care providers. The management of geriatric orthopaedic injuries is complicated due to the presence of challenging social situations, poor health reserves, and comorbidities. While literature on the management of geriatric hip fractures continues to blossom, newer evidence is demonstrating parallels between hip and ankle fractures. There continues to be debate as to the optimal management of displaced geriatric ankle fractures, and there are data to support both operative and nonoperative treatments. Baseline health and ambulatory capacity at injury were more predictive of outcomes following ankle fracture than were fracture characteristics or type of treatment among older adults with unstable ankle fracture the use of close contact casting compared with surgery resulted in similar functional outcomes at 6 months. Close contact casting may be an appropriate treatment for such patients. The orthopaedic surgeon must consider the patient's individual risk factors and social and functional status when determining the optimal treatment. Regardless of treatment route, it is clear that early involvement of the patient's primary care physician or geriatric specialist is vital to reduce the risk of undue medical complications. The geriatric patient population is growing, and it is clear that there are several medical, economic, and social factors that must be considered when treating these patients for ankle fractures and other orthopaedic injuries.

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Conflict of Interest

None

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